REMARKS

Applicants respectfully request entry of the above amendment. By the above amendment, claim 1 has been amended. Support for the amendment can be found throughout the specification, for example, at page 6, paragraphs [0024] and [0025].

RESPONSE TO THE OFFICE ACTION

Allowable Subject Matter

As a preliminary matter, Applicants note with appreciation that the Office Action indicates that claims 9, 10, and 16 are allowed.

Formal Matters

Applicants note with appreciation that the Examiner has indicated consideration of the Information Disclosure Statements submitted to the Office on March 13, 2006; March 17, 2006; March 29, 2006; and June 15, 2007 by returning signed and initialed copies of the forms PTO-1449. Furthermore, the Office Action also indicates acceptance of the drawings submitted to the PTO concurrently with the application.

Claim Rejections under 35 U.S.C. § 102

The Office Action rejects claims 1-7, 14, 15, and 17 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 6,852,433 B2 to Maeda.

Initially, Applicants point out that Maeda was published less than one year before the U.S. filing date of the present application, thereby disqualifying it as a § 102(b) document. However, Applicants also note that it appears that Maeda's published

application, namely U.S. Patent Application Publication No. 2004/0013911, published on January 22, 2004 ("Maeda"), would qualify as a § 102(b) document. Therefore, Applicants assume that the Office would rely on Maeda's published application as a § 102(b) reference.

The Office Action asserts that Maeda allegedly discloses rare-earth oxide thermal spray coatings that are gray or black in color. In particular, the Office Action asserts that Maeda allegedly discloses yttrium oxide sprayed on aluminum articles. Furthermore, the Office Action asserts that Maeda allegedly discloses spray coatings with a thickness between 50 and 500 μm and the use of double oxide including yttrium oxide in combination with aluminum oxide. The Office Action concludes that Maeda anticipates Applicant's invention.

This rejection is respectfully traversed. Applicants respectfully submits that Maeda fails to disclose "*a Y_2O_3 black spray coating, wherein the Y_2O_3 black spray coating is generated by a laser or electron beam process*" as recited by amended claim 1.

As for method claims 14, 15, and 17, dependent from independent claim 8, Applicant notes that Maeda does not disclose "*a white Y_2O_3 powdery material . . .plasma-sprayed directly on a surface . . . to form a Y_2O_3 black spray coating*" as recited in claim 8. Referring to page 3 of Maeda, Comparative Example 1 and Comparative Example 2, Maeda discloses white Y_2O_3 powder being plasma sprayed onto an article but the resulting Y_2O_3 coatings are not black but rather are almost white. The L^* values of each of the Maeda products in the Comparative Examples are 92.4 and 91.5, respectively, which is almost white. Applicants respectfully remind the Examiner that an L^* value of 100 is white and an L^* value of 0 is black. Therefore, at best, Maeda teaches away from

the present invention. In order to shed further light on the differences between the present invention and Maeda, Applicants submit the following explanation.

In contrast to the claimed invention, Maeda discloses a technique for forming a gray or black sprayed coating by thermal spray coating (plasma spraying or low pressure plasma spraying) of rare earth oxide, wherein the rare earth oxide used is an oxide of one or more elements selected from group 3A rare earth elements including yttrium and a gray or black color-imparting material is included into the rare earth oxide for the formation of the gray or black sprayed coating. As the color-imparting material, 0.1-2 mass% of carbon, 1-1000 ppm of titanium and 1-1000 of molybdenum is used.

The rare earth oxides basically exhibit a white color. Carbon, on the contrary, is black and has a low specific gravity, so that the color of the rare earth oxide is changed to black by incorporating carbon therein, in accordance with conventional wisdom.

As disclosed in the present in the present invention, titanium oxide itself is white, but changes into black titanium when exposed to electron rich plasma. Molybdenum exhibits similar properties.

In Maeda, the change of the sprayed coating into gray or black color is attained by adding color-imparting material to the spraying material.

According to the present invention, the white yttrium oxide spray coating is changed into a black color by irradiating an electron beam or laser beam onto the surface of the spray coating. As a result, a part of the Y_2O_3 is changed to form Y_2O_{3-x} which is black in color. There is no incorporation of color-imparting material or impurities and the purity of the initial Y_2O_3 spray coating is maintained and hence the resistance to halogen and resistance to plasma erosion are completely maintained.

In view of the foregoing, Applicants respectfully submit that Maeda does not anticipate the present claims 1-7 at least because it does not disclose a laser or electron beam. Furthermore, Applicants submit that Maeda does not anticipate method claims 14, 15, and 17 at least because it fails to disclose a black coating generated from a white Y_2O_3 plasma spray. Therefore, withdrawal of the rejections is respectfully requested.

Claim Rejections under 35 U.S.C. § 103(a)

The Office Action raises the following 35 U.S.C. § 103(a) rejections:

a.) Claims 8 and 13 are rejected under 35 U.S.C. § 103(a) as obvious over Maeda in view of U.S. Patent No. 5,004,712 to Borglum ("Borglum");
b.) Claims 2, 3, 5, 11, 12, and 15 are rejected under 35 U.S.C. § 103(a) as obvious over Maeda in view of Borglum and in further view of JP 2001-164354 to Harada ("Harada I");
c.) Claim 4 is rejected under 35 U.S.C. § 103(a) as obvious over Maeda in view of JP 09-069554 to Harada ("Harada II").

Applicants note that the Office Action asserts Maeda as the primary reference in each of the obviousness rejections. In view of the foregoing facts submitted in response to the anticipation rejections, Applicants submit that none of the secondary references cures the deficiencies of Maeda. That is, neither Borglum nor Harada I nor Harada II discloses *a laser or electron beam process* as recited in claim 1 or a black Y_2O_3 coating generated from a plasma spray of white Y_2O_3 as recited in independent claim 8.

In addition, Applicants note that Borglum relates to Y_2O_3 sintered bodies but does not disclose any spray coating or methods thereof. Thus, Applicants submit that there is no motivation to combine Maeda with Borglum.

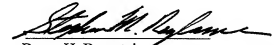
Because, the cited documents either alone or in combination fail to disclose all the recitations of the claimed invention, obviousness is not established as the obviousness rejections fail to disclose or suggest all recitations of the claims. Withdrawal of the rejections is respectfully requested.

Conclusion

In view of the foregoing, it is believed that all of the claims in this application are in condition for allowance, which action is respectfully requested. If any issues yet remain which can be resolved by a phone conference, the Examiner is respectfully invited to contact the undersigned at the telephone number below.

If there should be any questions or if any issues remain that can be resolved by telephone, the Examiner is respectfully invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,
Yoshio HARADA et al.



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